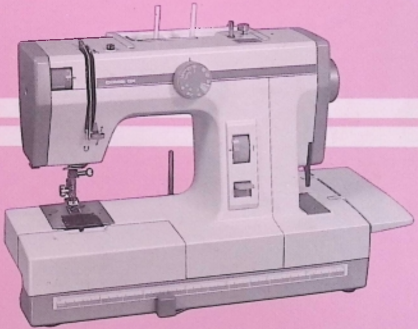
COMBI DX

MODEL 502

INSTRUCTION BOOK



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Knowing Your Sewing Machine

Fundamentals of Operation

For Your Safety

1. While in operation, always keep your eye on the needle, and do not touch any moving parts such as the take-up lever, balance wheel, needle, looper or knife.
2. Always turn off the machine, and unplug from the power supply:
   - * After using the machine.
   - * When leaving the machine for any period of time.
   - * When attaching or removing parts.
   - * When cleaning or oiling the machine.
3. Do not place any objects on the speed controller.

Before Using the Machine

- Wipe the machine with a clean cloth to remove any dust or oil.
- To replace presser feet or needles follow the guides in the instruction book.
- After setting the machine for sewing, test the stitches on a remnant of the garment.

For Longer Life of the Machine

- Do not expose the machine to the sun for long periods of time.
- Do not store the machine in an area of high humidity nor near a radiator.
- Carry the machine with care to avoid dropping or bumping.

Overlock Sewing

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Knowing Your Sewing Machine

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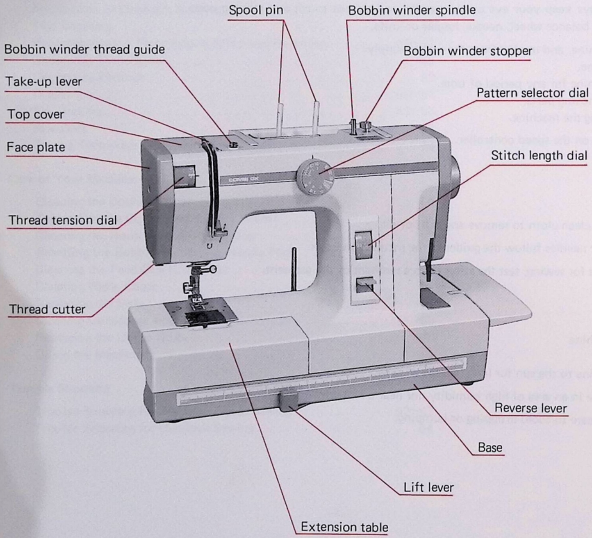
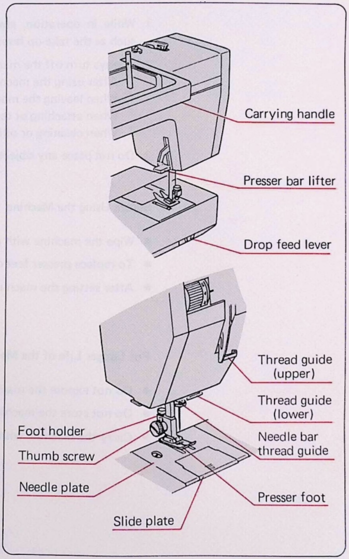
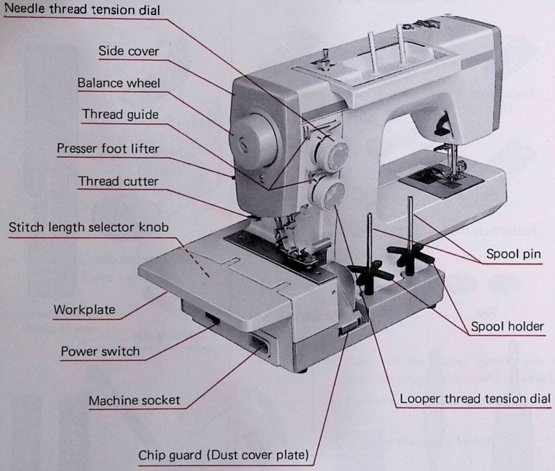
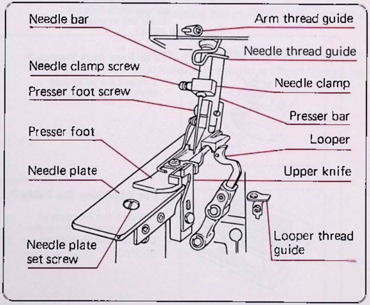
Names of Parts

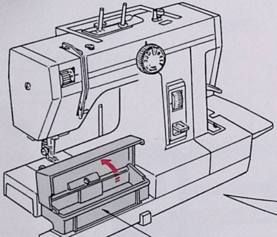

Spool pin
Bobbin winder spindle
Bobbin winder thread guide
Bobbin winder stopper
Take-up lever
Pattern selector dial
Top cover
Stitch length dial
Face plate
Thread tension dial
Thread cutter
Reverse lever
Base
Lift lever
Extension table


Carrying handle
Presser bar lifter
Drop feed lever
Thread guide (upper)
Thread guide (lower)
Foot holder
Needle bar thread guide
Thumb screw
Needle plate
Presser foot
Slide plate

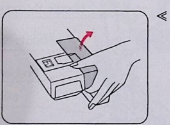

Needle thread tension dial
Side cover
Balance wheel
Thread guide
Presser foot lifter
Thread cutter
Stitch length selector knob
Spool pin
Spool holder
Workplate
Power switch
Machine socket
Looper thread tension dial
Chip guard (Dust cover plate)


Needle bar
Arm thread guide
Needle thread guide
Needle clamp screw
Needle clamp
Presser foot screw
Presser bar
Presser foot
Looper
Needle plate
Upper knife
Looper thread guide
Needle plate set screw

Standard Accessories

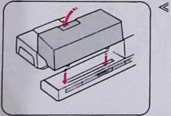


Sewing accessories are conveniently located under the extension table.



≪ For Free Arm Sewing ≫

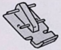
Lift out the extension table as illustrated.



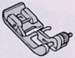
≪ For Attaching the Table ≫

Position the two pins of the extension table on the base slit and push down gently.

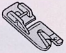
≪ For Straight/Zigzag ≫



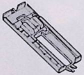
Zipper foot (E)



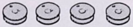
Blind stitch foot (G)



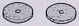
Hemming foot (D)



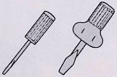
Buttonhole foot



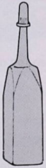
Bobbin



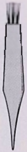
Felt



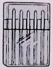
Screw drivers



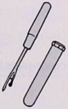
Oil



Lint brush

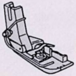


Set of needles

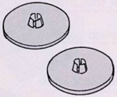


Seam ripper

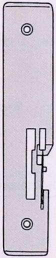
≪ For Overlock ≫



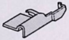
Rolled hemming foot



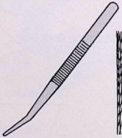
Thread stripping disc



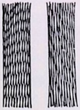
Rolled hemming needle plate



Flatlock guide plate

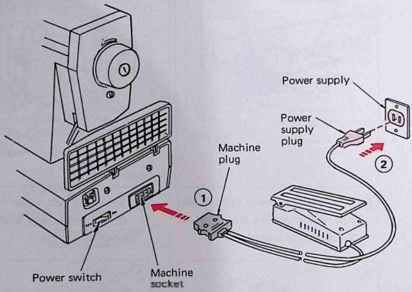


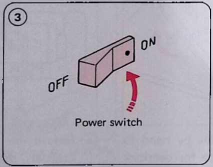
Tweezers



Net

Connecting the Machine to the Power Supply


Power supply
Power supply plug
Machine plug
②
①
Power switch
Machine socket

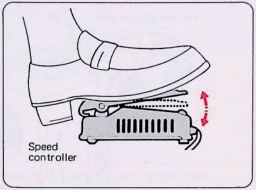

③
ON
OFF
Power switch

① Turn off the power switch, and connect the machine plug to the machine socket.

② Connect the power supply plug to your power supply.

③ Turn on the power switch.

Controlling Sewing Speed

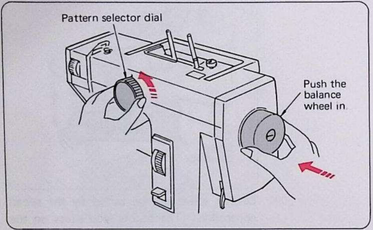

Speed controller

Sewing speed can be varied by the speed controller. The harder you press on the controller, the faster the machine runs.

- * By releasing the controller, the machine stops running.
- * Before using the machine, practice controlling the speed without threading.

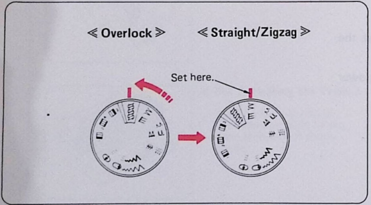
To Prepare for Straight/Zigzag Sewing

How to Select Straight/Zigzag or Overlock

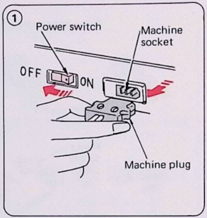

Pattern selector dial
Push the balance wheel in.

To select straight/zigzag stitch or overlock, turn the pattern selector dial while pushing the balance wheel in.

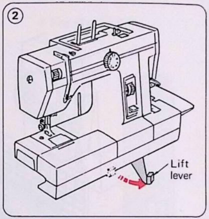
The sewing light is switched over automatically.


≪Overlock≫
≪Straight/Zigzag≫
Set here.

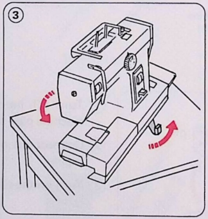
How to Turn the Machine


①
Power switch
Machine socket
OFF
ON
Machine plug

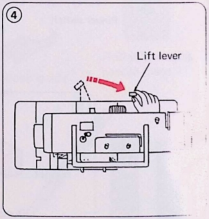
① Turn off the power switch, and pull the machine plug out of the machine socket.


②
Lift lever

② Turn the lift lever toward the arrow mark and keep it in the position.

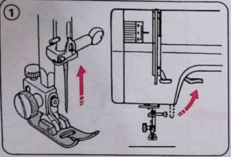


③ Turn the machine by hand to face another side for overlock sewing.


④
Lift lever

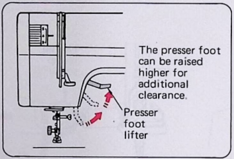
④ Return the lift lever to original position as sho above, and connect t machine plug to the machin socket.

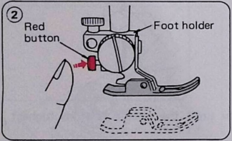
Removing or Attaching the Presser Foot



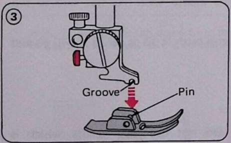
① Raise the needle and presser foot.

≪ Additional Clearance ≫


The presser foot can be raised higher for additional clearance.
Presser foot lifter

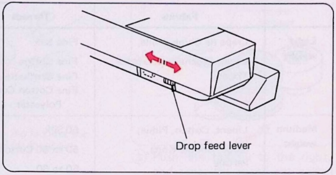

②
Red button
Foot holder

② Press the red button on the back of the foot holder.
The presser foot will drop off.


③
Groove
Pin

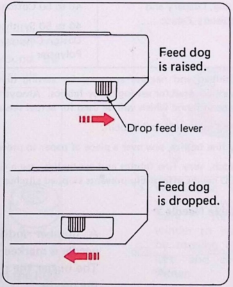
③ Place the presser foot so that the pin on the foot lies just under the groove of the foot holder.
Lower the foot holder to lock the foot in place.

Dropping the Feed Dog


Drop feed lever

To raise the feed dog, push the lever to the right.

To drop the feed dog, push the lever to the left.


Feed dog is raised.
Drop feed lever
Feed dog is dropped.

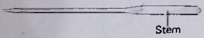
Feed dog must always be up for normal sewing.

Thread and Needle Chart

	Fabrics	Threads	Needle Size
Light weight	Crepe de Chine, Voile, Lawn, Organdy, Georgette, Tricot	Fine Silk Fine Cotton Fine Synthetic Fine Cotton Covered Polyester	9 or 11
Medium weight	Linens, Cotton, Pique, Serge, Double Knits, Percale	50 Silk 50 to 80 Cotton 50 to 60 Synthetic Cotton Covered Polyester	11 or 14
Heavy weight	Denim, Tweed, Gabardine, Coating, Drapery and Upholstery Fabric	50 Silk 40 to 50 Cotton 40 to 50 Synthetic Cotton Covered Polyester	14 or 16

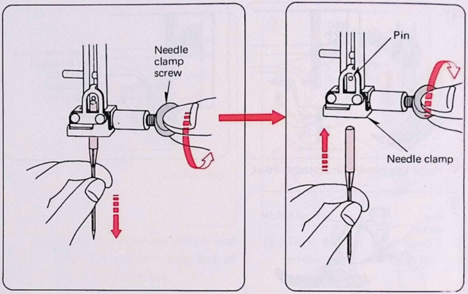
- In general, fine thread and needles are used for sewing thin fabrics, and thicker threads and needles are used for sewing heavy fabrics. Always test thread and needle size on a small piece of fabric which will be used for actual sewing.
- Use the same thread for needle and bobbin.
- When sewing very fine fabrics, sew over a piece of paper to prevent yarn distortion.
- When sewing stretch, very fine fabrics and synthetics, use a BLUE TIPPED needle. The BLUE TIPPED needle effectively prevents skipped stitches.

≪ To Select a Suitable Needle ≫



- A number indicating the size of needle is marked on the stem. The higher the number, the thicker the needle.

Changing Needles

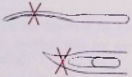


① Turn the balance wheel towards you until the needle is at its highe position.

② Loosen the needle clamp screw by turning its top edge toward yo Remove the needle from the clamp.

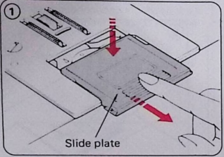
③ Insert the new needle into the needle clamp with its flat side to back.

④ When inserting the needle into the clamp, push it up as far as it will go tighten the clamp screw firmly.

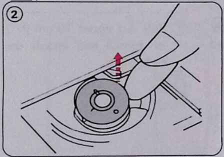


- Do not use any needle which bent or blunted.

Lifting Out the Bobbin

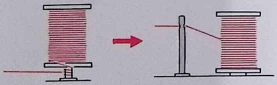


① Gently pull the slide plate while pushing it down.

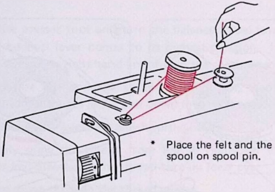


② Lift out the bobbin.

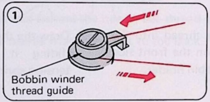
If the thread would slip down from the spool, thread through the hole of spool pin as shown.



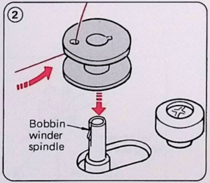
Winding the Bobbin



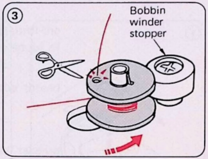
* Place the felt and the spool on spool pin.



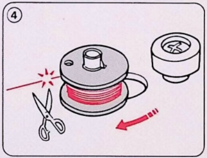
① Draw thread from spool, and guide the thread around the bobbin winder thread guide.



Insert the thread through the hole in the bobbin, threading from the inside to the outside. Then put the bobbin on the bobbin winder spindle.



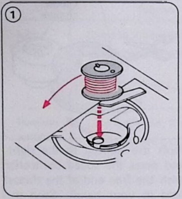
③ Push the bobbin to the right, and press the speed controller with the free end of the thread held in your hand. Stop the machine when it has made a few turns, and cut the thread close to the hole in the bobbin.



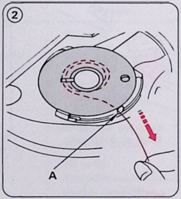
④ When the bobbin is fully wound, it will stop automatically. Return the bobbin winder to its original position by moving the spindle to the left, and cut the thread as shown.

* Stop the machine before moving the bobbin winder spindle.

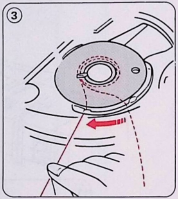
Inserting the Bobbin



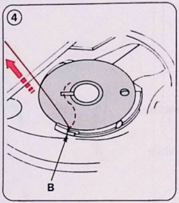
① Place the bobbin in the bobbin holder with the thread running counter-clockwise as illustrated.



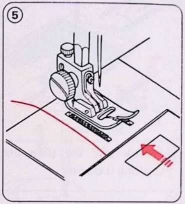
② Guide the thread into the notch A on the front side of the bobbin holder.



③ Draw the thread to the left sliding it between the tension spring blades.

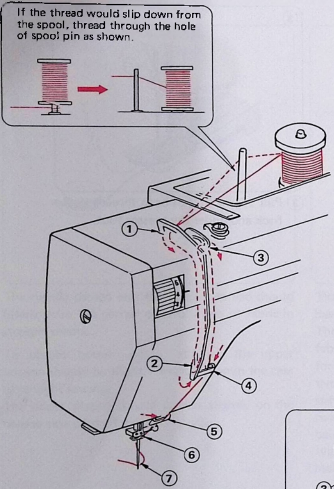


④ Continue to draw lightly the thread until the thread slips into notch B.



⑤ Pull out about 15 cm (6") of thread and attach the slide plate.

Threading the Machine


If the thread would slip down from the spool, thread through the hole of spool pin as shown.

Raise the presser foot and turn the balance wheel toward you until the thread take-up lever comes to its highest position. Hold the spool of thread with your right hand and thread the machine as follows.

① Place the felt and the spool on spool pin, then draw the thread around the thread guide and down into the tension.

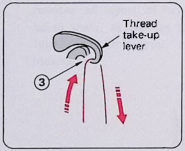
② Then down around the check spring holder.

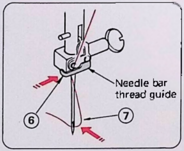
③ Firmly draw the thread from left to right over the thread take-up lever and down into the thread take-up lever eye.

④ ⑤ Then down through the thread guides.

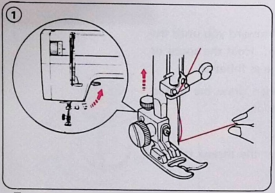
⑥ Slide the thread behind the needle bar thread guide on the left.

⑦ Thread the needle from the front to the back.

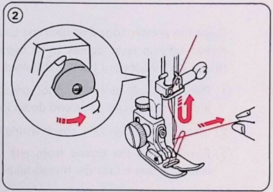




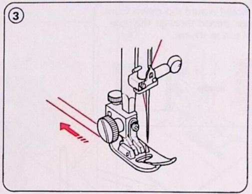
Drawing Up Bobbin Thread



① Hold the needle thread lightly with your left hand.



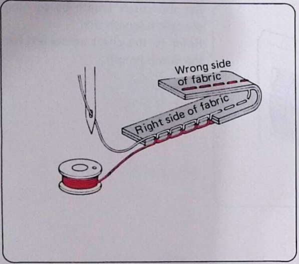
② Turn the balance wheel slowly towards you with your right hand until the needle goes down and continue turning the balance wheel until the thread take-up lever comes to its highest position. Lightly draw up the needle thread forming a loop of the bobbin thread.

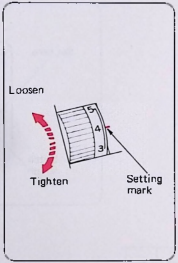


③ Pull 15 cm (6") of both threads to the back and under the presser foot.

Balancing Needle Thread Tension

≪ Correct Tension ≫


Wrong side of fabric
Right side of fabric

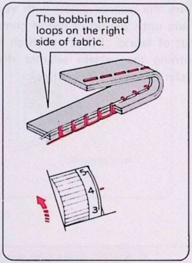

Loosen
5
4
3
Tighten
Setting mark

The needle thread and the bobbin thread should interlock in the center of two layers of fabric in straight seams.

To obtain better zigzag stitches, the upper tension should be slightly weaker than in the case of straight sewing.
The upper thread should appear slightly on the reverse side of the fabric.

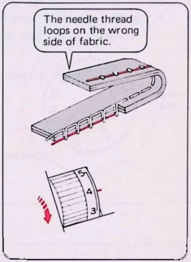
There are many reasons for having to reset the tension. The best tension for one fabric may not be correct for another. The required tension depends upon the stiffness, thickness and number of layers of fabric being sewn, as well as the type of stitch you are making.

≪ The Needle Thread is too Tight ≫


The bobbin thread loops on the right side of fabric.
5
4
3

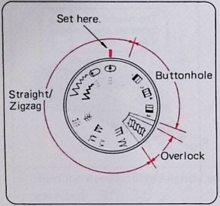
Loosen the needle thread tension by moving the dial to a lower number.

≪ The Needle Thread is too Loose ≫

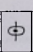
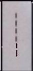
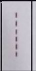
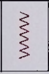
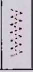
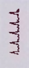
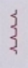
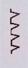
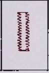
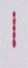
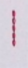
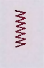
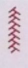
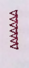
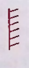

The needle thread loops on the wrong side of fabric.
5
4
3

Tighten the needle thread tension by moving the dial to a higher number.

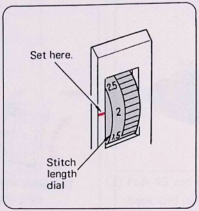
Selecting the Stitches


Set here.
Buttonhole
Straight/
Zigzag
Overlock

Turn the balance wheel with your hand until the tip of needle comes out of fabric. Select the stitch by turning the pattern selector dial. Refer to page 33 for overlock.

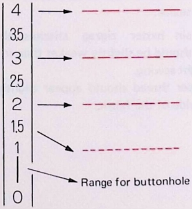
Pattern														
Stitch length dial	1.5 ~ 4		0.3 ~ 4	0.5 ~ 1.5	1 ~ 3		0.5 ~ 1.5	0.3 ~ 1	S.S.					
Stitch														

Adjusting the Stitch Length

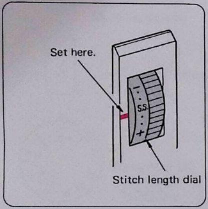

Set here.
2.5
2
1.5
Stitch length dial

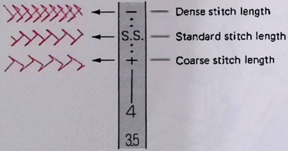
Set the stitch length by turning the stitch length dial.
Refer to the chart below left for the stitch length.

≪ Variation of Stitch Length ≫


4
3.5
3
2.5
2
1.5
1
0
Range for buttonhole

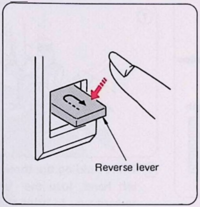
Selecting the Stretch Stitch


Set here.
S.S.
Stitch length dial


Dense stitch length
Standard stitch length
Coarse stitch length
S.S.
+
4
3.5

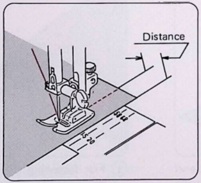
When sewing stretch stitch, set the stitch length dial at S.S. normally. However, the stitch becomes unbalanced depending upon fabrics. When it occurs, correct the balance as shown.

Using the Reverse Lever


Reverse lever

Fabric is fed in reverse when the reverse lever is pressed. When it is released, fabric is fed forward.

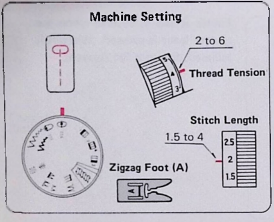
Using the Line Gauge



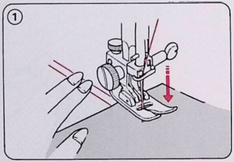
The number indicates the distance between the center needle position and the line.

Basic Sewing

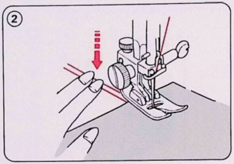
Straight Stitching


Machine Setting
2 to 6
Thread Tension
5
4
3
Stitch Length
1.5 to 4
2.5
2
1.5
Zigzag Foot (A)

≪ Starting Sewing ≫

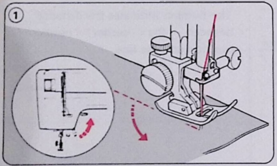


① While holding the threads with your left hand, turn the balance wheel toward you to bring the needle into the fabric where you wish to start sewing.



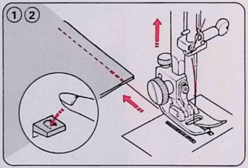
② Lower the presser foot, and press the speed controller gently, then start sewing slowly.

≪ Changing Sewing Direction ≫



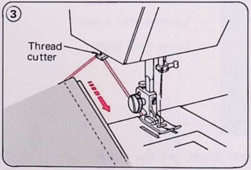
① Bring the needle down into the fabric, and raise the presser foot. Then pivot the fabric to the direction desired. Lower the foot to start sewing.

≪ Fastening Seams ≫



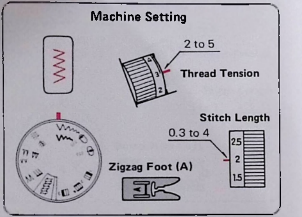
① For fastening the end of seams, press the reverse lever and sew several reverse stitches.

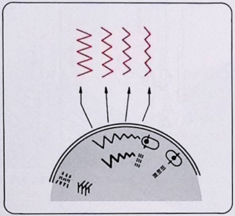
② Bring the thread take-up lever at its highest position, and raise the presser foot. Then draw the fabric out to the rear.


③
Thread cutter

③ Use the thread cutter.
The threads are cut the proper length for starting the next seam.

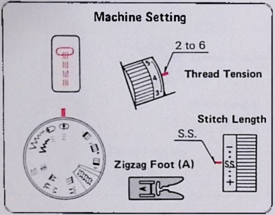
Zigzag Stitching

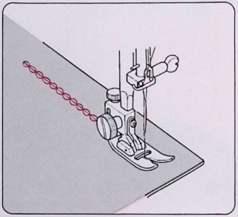

Machine Setting
2 to 5
3
2
Thread Tension
Stitch Length
0.3 to 4
2.5
2
1.5
Zigzag Foot (A)



Zigzag width can be regulated in the range of the symbol as illustrated above.

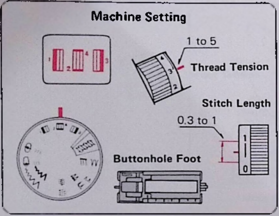
Triple Strength Stitching


Machine Setting
2 to 6
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)

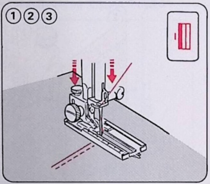


This strong, durable stitch is recommended where both elasticity and strength are needed to ensure comfort and durability.

Buttonhole Stitching



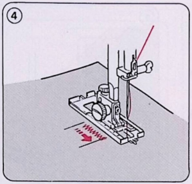
Always make a practice buttonhole on a scrap of fabric you plan to use. Try the buttonhole with the button you will use.



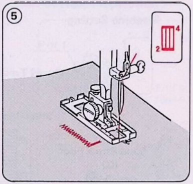
① Set the pattern selector dial at " 1▯ ".

② Lead both threads to the left.

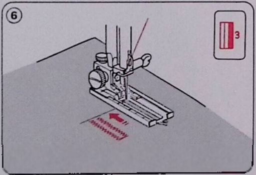
③ Lower the needle into the fabric where the buttonhole is to start, and lower the foot.



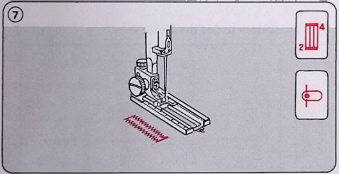
④ Sew down the left side of the buttonhole to the bottom end. Raise the needle.



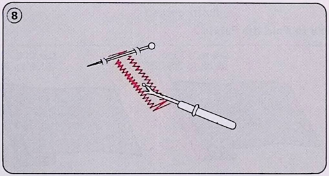
⑤ Set the pattern selector dial at " 2▯4 ", and sew 5 stitches of bartack, then raise the needle from the fabric.



⑥ Set the pattern selector dial at " ▯3 ". Sew up the right side of the buttonhole. Stop the machine when you are directly opposite the first stitch on the left hand side, and raise the needle.

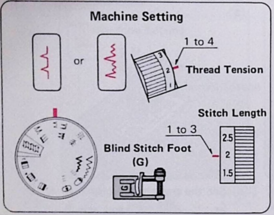


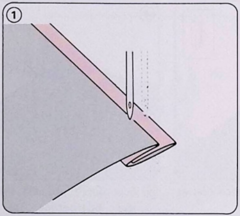
⑦ Set the pattern selector dial at " 2▯4 ".
Sew five stitches of bartack, and raise the needle from the fabric.
Then set the pattern selector dial at " ⊕ " and sew a few stitches to secure the seam.

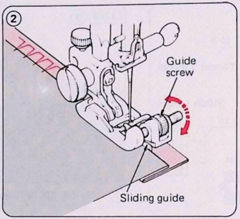


⑧ Remove the fabric from the machine, and cut the sewing threads.
Insert a pin inside the bartack. Then cut the opening with a seam ripper. Be careful not to cut the stitches.

Blind Stitch Hemming


Machine Setting
or
1 to 4
Thread Tension
Stitch Length
1 to 3
2.5
2
1.5
Blind Stitch Foot
(G)

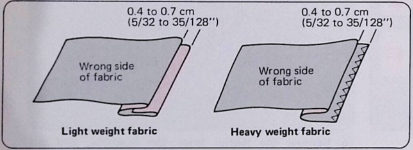



②
Guide screw
Sliding guide

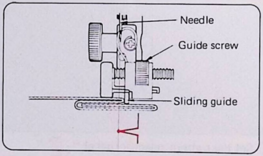
① Position the fabric on the machine so that the needle just pierces the folded edge of the fabric when the needle comes over to the extreme left side. Lower the presser foot.

② Turn the guide screw and move the sliding guide next to the folded edge. Sew the folded edge guiding along the sliding guide.

≪ How to Fold the Fabric ≫


0.4 to 0.7 cm
(5/32 to 35/128")
Wrong side of fabric
Light weight fabric
0.4 to 0.7 cm
(5/32 to 35/128")
Wrong side of fabric
Heavy weight fabric

≪ How to Set the Guide ≫


Needle
Guide screw
Sliding guide

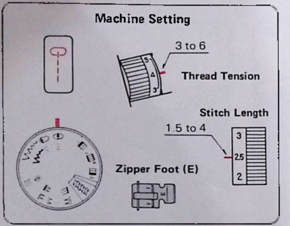
On heavy weight fabrics that ravel, the raw edge should be overcast first.

On light weight fabrics the raw edge can be turned under and pressed.

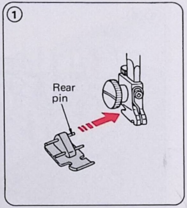
Fold up the hem the desired amount and pin in place.

Fold the hem under the fabric as illustrated.

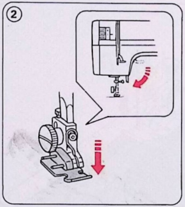
Zipper Application


Machine Setting
3 to 6
Thread Tension
Stitch Length
1.5 to 4
3
2.5
2
Zipper Foot (E)

≪ Attaching Zipper Foot ≫

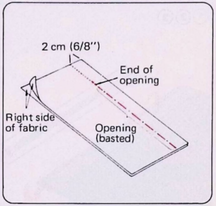


① Put the rear pin of the foot on the groove of the foot holder.



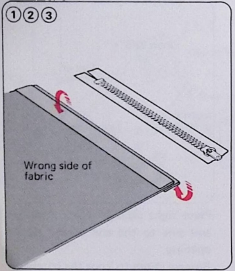
② Lower the presser bar lifter while holding the foot with your left hand.

≪ Fabric Preparation ≫


2 cm (6/8″)
End of opening
Right side of fabric
Opening (basted)

Place right sides of fabric together and sew to the end of the zipper opening.
Reverse stitch to knot the stitches.
Sew the zipper opening with a basting stitches.

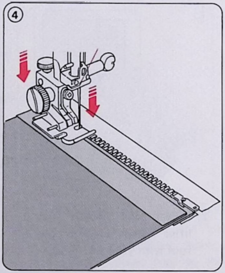
≪ To Sew ≫



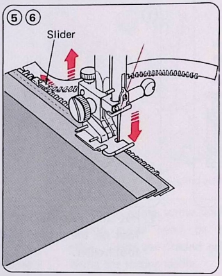
① Fold back the left seam allowance.

② Turn under the right seam allowance to form a 0.2 to 0.3 cm (1/8″) fold.

③ Place the zipper teeth next to the fold and pin in place.

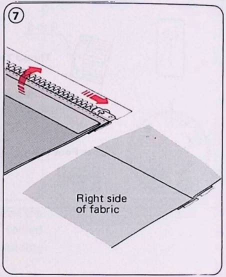


④ Lower the needle into the fabric at the point where sewing is to begin, then lower the foot.



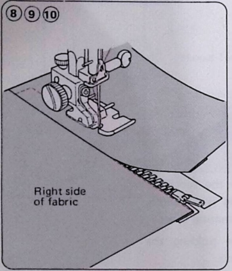
⑤ Sew through fold and zipper tape. Stop just before the zipper foot reaches the slider on the zipper tape.

⑥ Turn the balance wheel by hand and lower the needle into the fabric. Raise the zipper foot and open the zipper. Lower the foot and stitch the remainder of the seam.

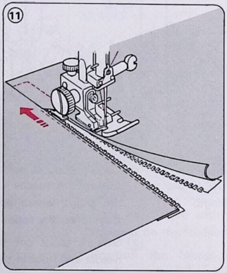


⑦ Close the zipper and spread the fabric flat with the right side facing up.

⑧⑨⑩



⑪



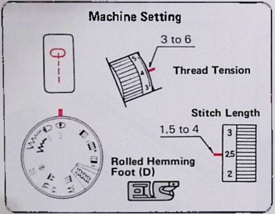
⑧ Move the zipper foot to the left pin, guide the edge of the foot along the zipper teeth and stitch through fabric and zipper tape.

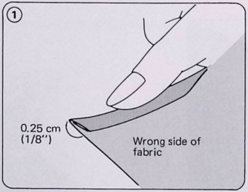
⑨ Stop about 5 cm (2") from the top of the zipper.

⑩ With the needle down in the fabric, raise the foot and remove the basting stitches.

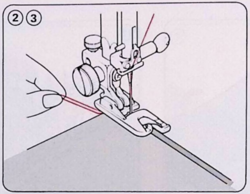
⑪ With the needle down in the fabric, open the zipper. Then lower the foot and stitch the remainder of the seam making sure the fold is even.

Rolled Hemming


Machine Setting
3 to 6
Thread Tension
Stitch Length
1.5 to 4
3
2.5
2
Rolled Hemming Foot (D)

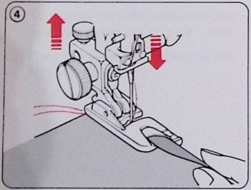

①
0.25 cm (1/8")
Wrong side of fabric

① Make a double 0.25 cm (1/8") fold approximately 8 cm (3") in length.

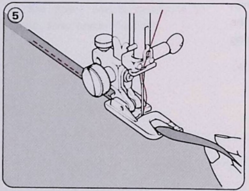


② Lower the needle into the fabric at the point where sewing is to begin, then lower the rolled hemming foot.

③ Sew 1 to 2 cm while holding the needle and bobbin threads.

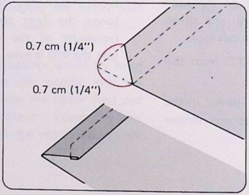


④ Lower the needle into the fabric and lift the rolled hemming foot. Insert the folded portion of the fabric into the curl of the foot.



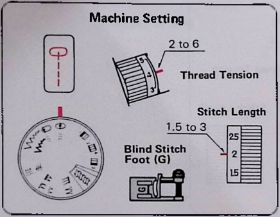
⑤ Lower the rolled hemming foot, then sew by lifting up the edge of the fabric to keep it feeding smoothly and evenly.

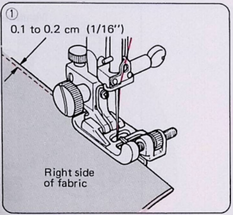
≪ Trimming Corners ≫


0.7 cm (1/4")
0.7 cm (1/4")

Trim about 0.7 cm (1/4") from corners as illustrated, to reduce bulk.

Pin Tucking


Machine Setting
2 to 6
Thread Tension
Stitch Length
1.5 to 3
Blind Stitch Foot (G)
25
2
1.5

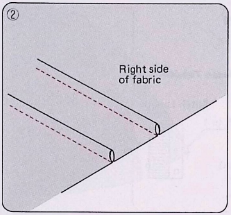

①
0.1 to 0.2 cm (1/16")
Right side of fabric

① Fold the fabric with wrong sides together on the foldline.

Position the fabric so that the needle pierces 0.1 to 0.2 cm (1/16") inside of folded part and lower the presser foot.

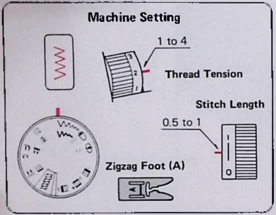
Turn the guide screw and move the sliding guide next to the folded edge.

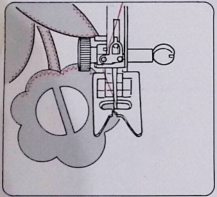
Sew the folded edge guiding along the sliding guide.


②
Right side of fabric

② Press the pin tucks to one side.

Applique

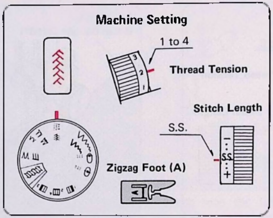

Machine Setting
1 to 4
Thread Tension
Stitch Length
0.5 to 1
Zigzag Foot (A)

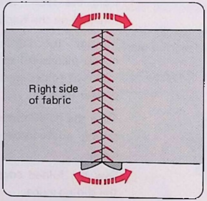


Baste (or fuse with iron-on fabric joiner) applique pieces on the fabric. Stitch around the applique making sure the needle falls along the outer edge of the applique.

When sewing corners, lower the needle down into the fabric. Raise the presser-foot and pivot the fabric to the right or left.

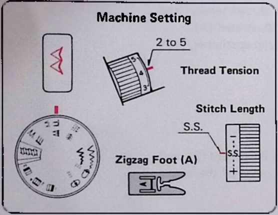
Patch Work

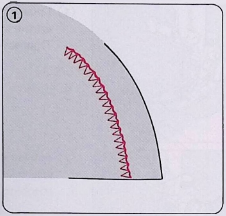

Machine Setting
1 to 4
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)


Right side of fabric

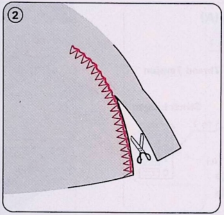
Sew seam and press seam allowance open. Sew pattern stitch on right side of fabric centering stitches over the seam line.

Blanket Stitch


Machine Setting
2 to 5
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)

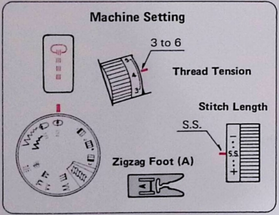


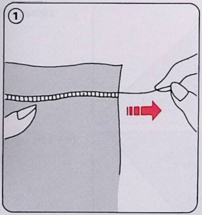
① Place the fabric right side up, and sew 1 cm (3/8") from the edge.



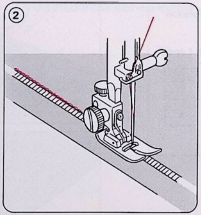
② Trim close to stitching.
The stitch will prevent raveling.

Fringing

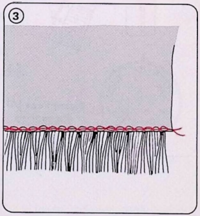

Machine Setting
3 to 6
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)



① Draw out 2 or 3 yarns where fringing is to begin.

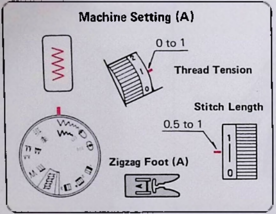


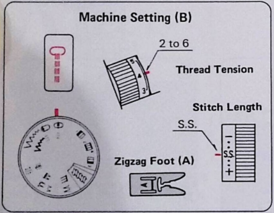
② Sew along the upper edge where the yarns are drawn out.

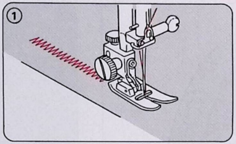


③ Draw out remaining yarns.

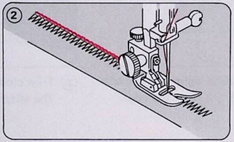
Fringing with Threads


Machine Setting (A)
0 to 1
Thread Tension
Stitch Length
0.5 to 1
Zigzag Foot (A)

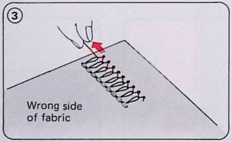

Machine Setting (B)
2 to 6
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)



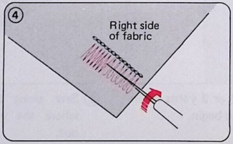
① Loosen the needle thread tension and set the machine as illustrated (A). Then sew a row of zigzag stitches.



② Set the machine as illustrated (B), and sew over the right edge of the zigzag stitching.

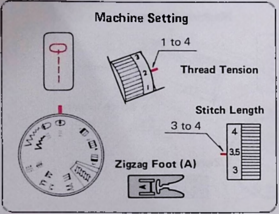

③
Wrong side of fabric

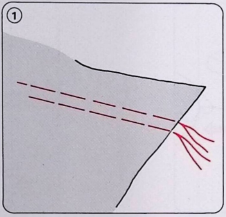
③ Pull out the bobbin thread on the zigzag stitching.


④
Right side of fabric

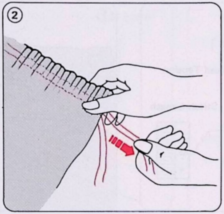
④ Lift up the needle threads.

Gathering


Machine Setting
1 to 4
Thread Tension
Stitch Length
3 to 4
Zigzag Foot (A)
4
3.5
3

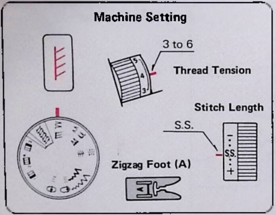


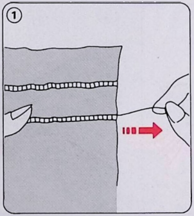
① Sew two rows 0.5 to 0.7 cm (3/16 to 1/4") apart.



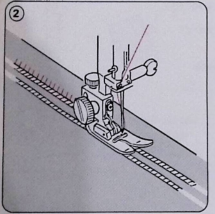
② Draw up the bobbin thread working from each end of the fabric until the desired amount is gathered.
Knot the threads at each end and distribute the gathers evenly.

Drawn Work

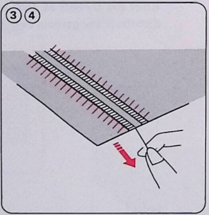

Machine Setting
3 to 6
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)



① Mark the width for the drawn work. Pull out one or two fabric yarns at each edge of the drawn work.



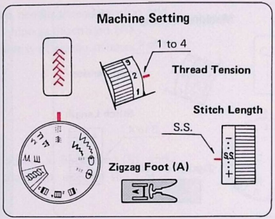
② Sew along the right edges.

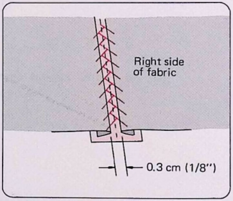


③ Turn the fabric and sew along the right edges.

④ Pull out all the yarns where the drawn work is required.

Fagoting

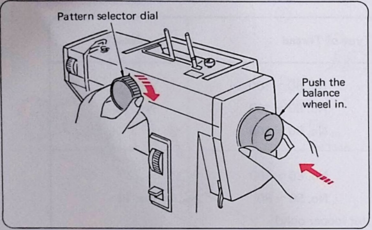

Machine Setting
1 to 4
Thread Tension
Stitch Length
S.S.
Zigzag Foot (A)


Right side of fabric
0.3 cm (1/8")

Fold under 1.5 cm (1/2") on each fabric edge and press.
Place a sheet of paper under the fabrics.
Pin the two edges to paper 0.3 cm (1/8") apart.
Sew slowly guiding the fabric so that the needle catches the folded edge on each side.
Remove the paper.

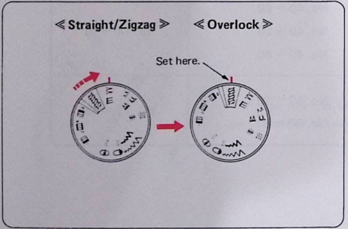
To Prepare for Overlock Sewing

How to Select Straight/Zigzag or Overlock

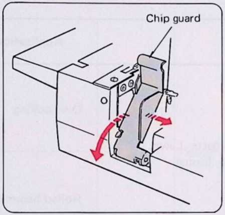

Pattern selector dial
Push the balance wheel in.

To select straight/zigzag stitch or overlock, turn the pattern selector dial while pushing the balance wheel in.

The sewing light is switched over automatically.

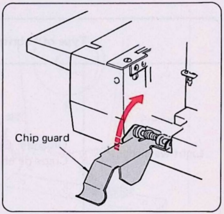

≪ Straight/Zigzag ≫
≪ Overlock ≫
Set here.

How to Open or Close the Chip Guard



≪ To Open ≫

Move the chip guard (dust cover plate) lightly to the right and then toward you.



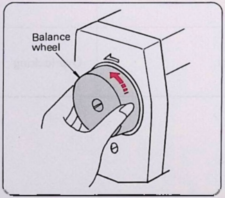
≪ To Close ≫

Close the chip guard (dust cover plate) by returning to its original position.

* The chip guard should be closed while sewing.

* As the machine sews, the edges of fabrics are cut by the knife and the waste chips are fed toward you.

How to Turn the Balance Wheel

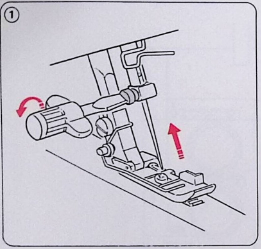

Balance wheel

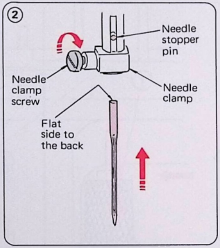
Always turn the balance wheel away from you when the overlock stitch is selected, otherwise the threads will be tangled.

Thread and Needle Chart

Type of Fabrics		Application	Type of Thread		Needle
Light weight	Organdy, Georgette, Lawn, Crepe de chine, Lining	Overlocking	Cotton Silk Synthetic	No. 80 ~ 100 No. 80 ~ 100 No. 80 ~ 100	No. 11
		Rolled hemming	Synthetic Silk Wooly nylon (for looper only)	No. 80 ~ 100 No. 50 ~ 80	No. 11
Medium weight	Cotton, Tricot, Linen, Satin, Ordinally fabrics	Overlocking	Cotton Silk Synthetic	No. 60 ~ 100 No. 50 ~ 100 No. 60 ~ 90	No. 11 ~ 14
Heavy weight	Tweed, Coating, Denim, Thick fabrics	Overlocking	Cotton Silk Synthetic	No. 40 ~ 60 No. 40 ~ 60 No. 40 ~ 60	No. 14 ~ 16
Knits	Knitted fabrics	Overlocking	Cotton Synthetic	No. 60 ~ 80 No. 60 ~ 90	No. 11 ~ 14

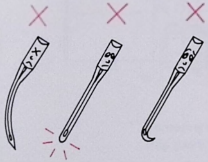
Changing Needles




②
Needle stopper pin
Needle clamp screw
Needle clamp
Flat side to the back

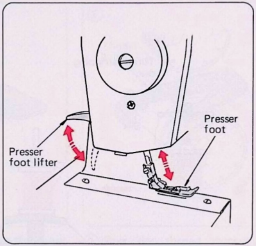
① Raise the needle above the presser foot, and loosen the needle clamp screw, then remove the needle.

② Insert the new needle into the needle clamp with its flat side to the back until the top of needle touches the needle stopper pin, then tighten the needle clamp screw.



* Do not use any needle which is bent or blunted.

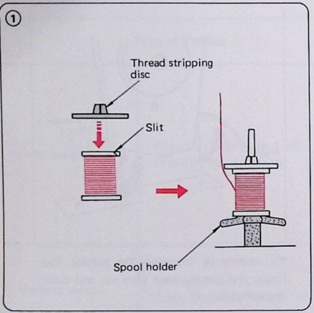
Raising or Lowering the Presser Foot

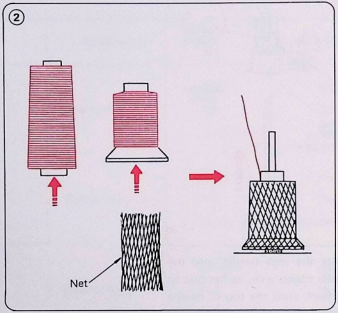

Presser foot
Presser foot lifter

By raising or lowering the presser foot lifter, the presser foot goes up and down respectively.

- While in operation, keep the presser foot lowered except for testing stitches, threading the machine or sewing heavy weight fabrics.

Attaching the Thread Stripping Disc and Net

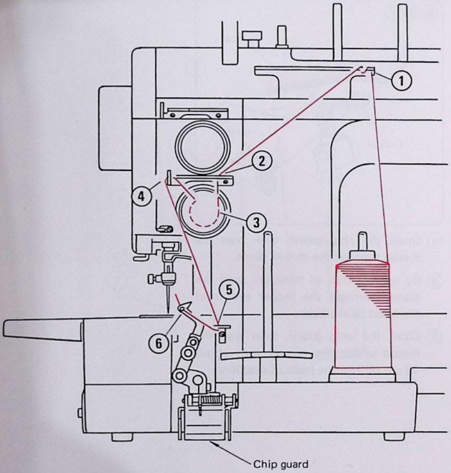

①
Thread stripping disc
Slit
Spool holder



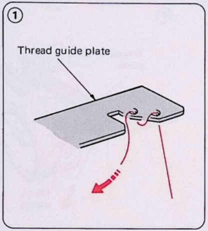
① When you use a small thread spool, place it with its slit side up and put the thread stripping disc on top.

② If the thread would slip down from the spool during threading and/or sewing, put a net on the spool as illustrated for preventing jamming. The net is supplied with the machine.

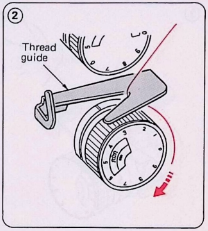
Threading the Looper



* Threading chart is located on the back of chip guard.



① Lead the thread from the spool and pass it through the two holes in the right side of thread guide plate as illustrated.

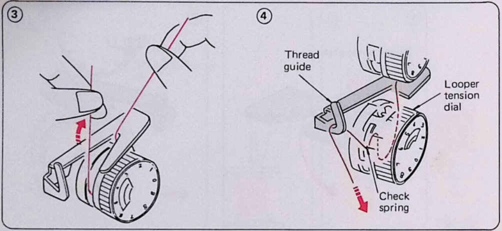


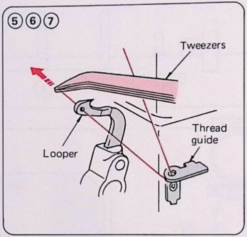
② Pass the thread through the thread guide.

RE-THREADING

When you change the threads, re-thread as follows:

1. Cut the threads near the spools.
2. Replace the spools with new threads.
3. Tie the new threads to old threads individually using a square knot.
4. Raise the needle and foot, and loosen the both tensions.
5. Pull the looper thread through the machine.
   Then pull the needle thread until the knot gets to the eye of the needle.
6. Cut the knot away and re-thread the needle.


③
④
Thread guide
Looper tension dial
Check spring


⑤⑥⑦
Tweezers
Thread guide
Looper

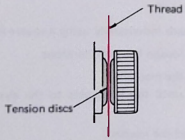
③ Pass the thread between the tension discs from the right, then pull the both sides of the thread. When you do so, the thread passes the guide and check spring in the tension dial.

④ Pass the thread through the thread guide as illustrated.

⑤ Open the chip guard, then pass the thread through the thread guide.

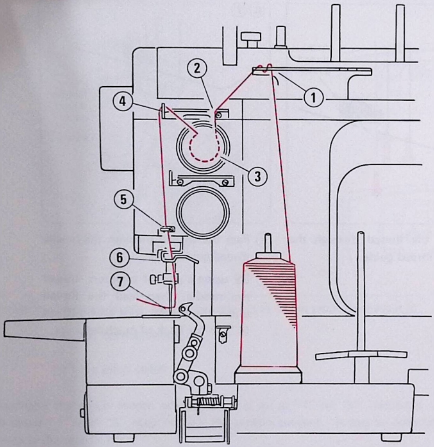
⑥ By using a pair of tweezers, lead the thread through the looper eye from the front to the back.

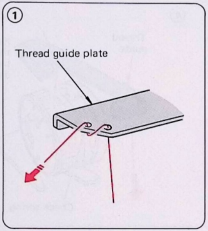
⑦ Close the chip guard, then lead the thread under the presser foot about 10 cm (4") to the back of machine.

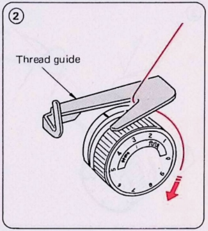

Thread
Tension discs

- Make sure that the thread is between the tension discs.

Threading the Needle

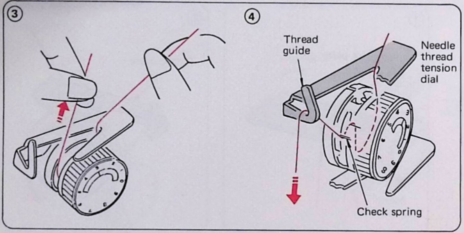



①
Thread guide plate


②
Thread guide

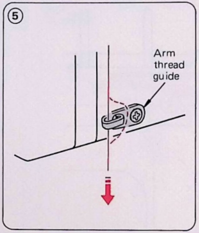
① Lead the thread from spool and pass it through the two holes in the left side of thread guide plate as illustrated.

② Pass the thread through the thread guide as illustrated.

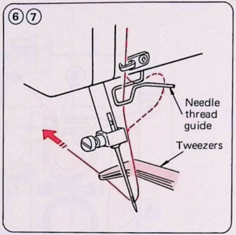

③
④
Thread guide
Needle thread tension dial
Check spring

③ Pass the thread between tension discs from the right. Then pull the both sides of the thread. When you do so, the thread passes the guide and check spring in the tension dial.

④ Pass the thread through the thread guide as illustrated.

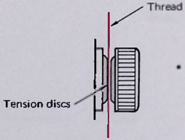

⑤
Arm thread guide

⑤ Pass the thread through the arm thread guide.


⑥⑦
Needle thread guide
Tweezers

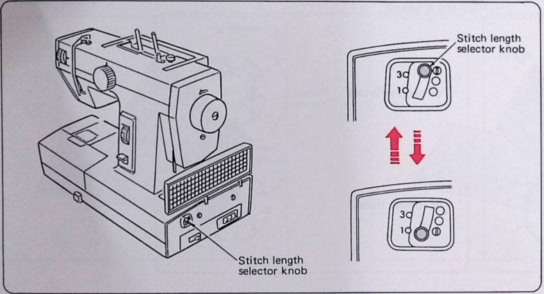
⑥ Pass the thread through the needle thread guide.

⑦ By using a pair of tweezers, thread the needle, then lead the thread under the presser foot about 10 cm (4") to the back of machine.


Thread
Tension discs

- Make sure that the thread is between the tension discs.

Selecting the Stitch Length


Stitch length selector knob
3
1
Stitch length selector knob

To select the stitch length, move the knob up or down while pushing it in.

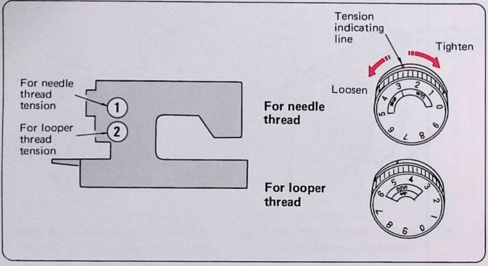
"3" for normal sewing

"1" for small stitch

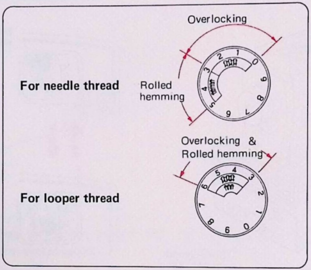
Normally the stitch length selector knob is set at "1" or "3". However, the stitch length between "1" and "3" may require for certain project. It can be obtained by setting the knob at the middle hole.

Adjusting Thread Tension

≪ Thread Tension Dial ≫


For needle thread tension
For looper thread tension
①
②
For needle thread
For looper thread
Tension indicating line
Loosen
Tighten

≪ Range of Tension ≫


For needle thread
For looper thread
Overlocking
Rolled hemming
Overlocking & Rolled hemming

- * Adjust the thread tension by using the both tension dials.
- * The thread tension varies depending on the types of fabric and thread.

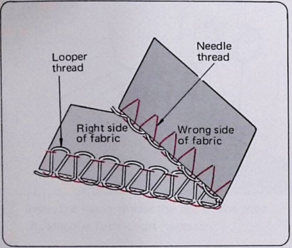
The range of tension is shown on the dial.

.... For overlocking

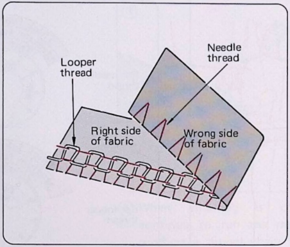
.... For rolled hemming

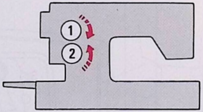
How to Correct the Tension

≪ Correct Tension ≫


Looper thread
Needle thread
Right side of fabric
Wrong side of fabric

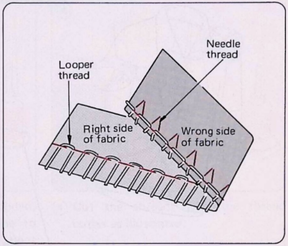
≪ The needle thread is too loose or the looper thread is too tight. ≫

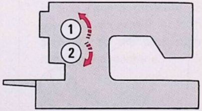

Looper thread
Needle thread
Right side of fabric
Wrong side of fabric



Turn the dial ① to clockwise or the dial ② to counter-clockwise.

≪ The needle thread is too tight or the looper thread is too loose. ≫


Looper thread
Needle thread
Right side of fabric
Wrong side of fabric

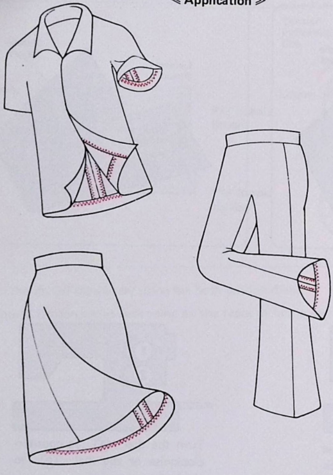


Turn the dial ① to counter-clockwise or the dial ② to clockwise.

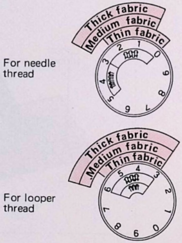
Overlock Sewing

Application of Overlock Stitching

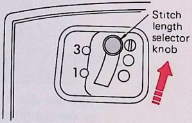
≪ Application ≫



≪ Range of the Tension Dial ≫


For needle thread
Thick fabric
Medium fabric
Thin fabric
2
1
0
9
8
7
6
5
4
3
For looper thread
Thick fabric
Medium fabric
Thin fabric
5
4
3
2
1
0
9
8
7
6

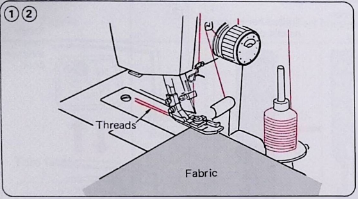
≪ Stitch Length Selector Knob ≫


Stitch length selector knob
3
1

* Set the stitch length selector knob at 3.

Test Stitching

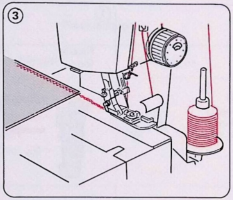
≪ Starting Sewing ≫

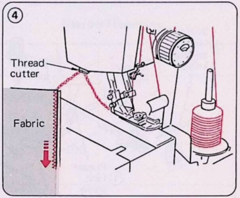


① Insert the fabric under the toe of the foot. (Raising the foot is not necessary.)

② Press the speed controller gently, then start sewing slowly. The fabric will be automatically fed, so guide the fabric in the direction desired.

≪ Finishing Sewing ≫

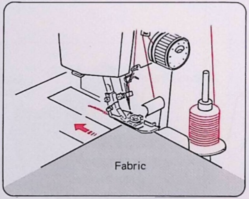




③ When stitching is completed, continue to run the machine to produce a thread chain for about 5 cm (2") or more.

④ Cut the threads with the thread cutter as illustrated.

≪ Sewing Continuously ≫

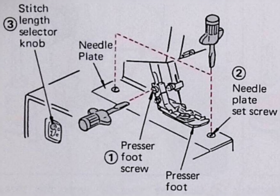


* Insert the fabric under the foot without raising the foot, then start to sew slowly.

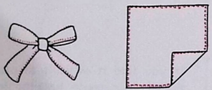
* If you find it difficult to produce thread chain neatly, hold the threads and pull to the back slightly while running the machine.

Rolled Hemming, Picot Edging & Narrow Hemming

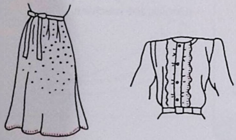
≪ Preparation ≫


③ Stitch length selector knob
Needle Plate
② Needle plate set screw
① Presser foot screw
Presser foot

≪ Application ≫

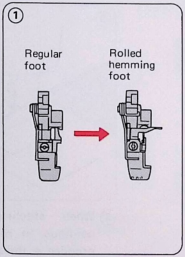


Edging on ribbon & handkerchief



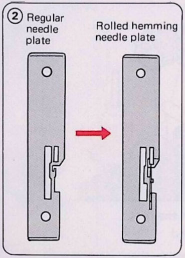
Edging on hem of skirt & frill

≪ Changing the Foot ≫


①
Regular foot
Rolled hemming foot

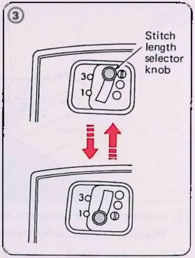
① Change it to the rolled hemming foot.

≪ Changing the Needle Plate ≫


②
Regular needle plate
Rolled hemming needle plate

② Change it to the rolled hemming needle plate.

≪ Stitch Length Selector Knob ≫

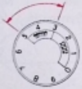
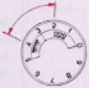
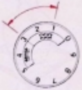
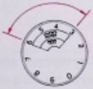
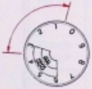
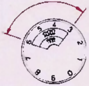
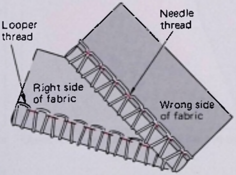
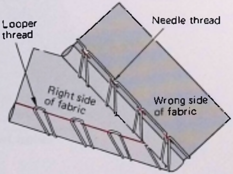
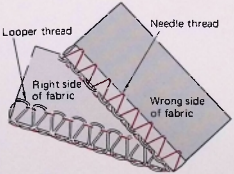

③
Stitch length selector knob
3
1
3
1

③ Move the knob down while pushing it in.

No. 1 is for rolled hemming & narrow hemming.

No. 3 is for picot edging.

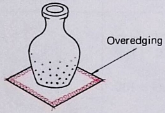
≪ Type of Thread and Range of the Tension Dial ≫

Fabric		Rolled Hemming		Picot Edging		Narrow Hemming	
		Thread	Tension Dial	Thread	Tension Dial	Thread	Tension Dial
Thin fabric Organdy, Crepe de Chine, Lawn, Georgette	Needle thread	Synthetic No. 80 ~ 100 Silk No. 50 ~ 100		Synthetic No. 80 ~ 100 Silk No. 50 ~ 100		Synthetic No. 80 ~ 100 Silk No. 50 ~ 100	
	Looper thread	Wooly nylon		Wooly nylon		Wooly nylon Synthetic No. 80 ~ 100 Silk No. 50 ~ 100	
	Stitch length selector knob	1		3		1	
	Correct tension	 Looper thread Needle thread Right side of fabric Wrong side of fabric		 Looper thread Needle thread Right side of fabric Wrong side of fabric		 Looper thread Needle thread Right side of fabric Wrong side of fabric	

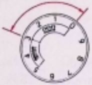
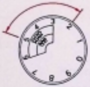
Decorative Overedging

≪ Overedging ≫

≪ Application ≫



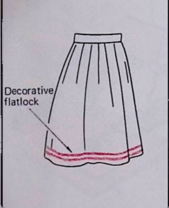
≪ Type of thread and range of the tension dial ≫

Fabric		Thread	Tension Dial
Medium to heavy fabric	Needle thread	Cotton No. 60 ~ 80 Silk No. 50 ~ 80 Synthetic No. 60 ~ 80	
	Looper thread	Buttonhole twist	
	Stitch length selector knob	3	

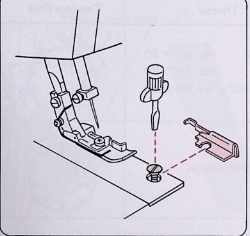
* Use the regular foot and regular needle plate.

Decorative Flatlock

≪ Application ≫

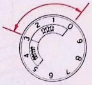
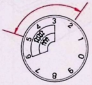

Decorative flatlock

≪ Preparation ≫



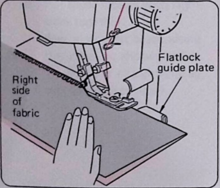
Attach the flatlock guide plate with the needle plate set screw.

≪ Type of thread and range of the tension dial ≫

Fabric		Thread		Tension Dial
Medium to heavy fabric	**Needle thread**	Cotton Silk Synthetic	No. 60 ~ 80 No. 50 ~ 80 No. 60 ~ 80	
	Looper thread	Buttonhole twist		
	Stitch length selector knob	3		

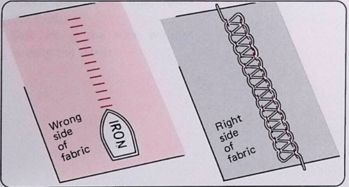
* Use the regular foot and regular needle plate.

≪ Sewing ≫


Flatlock guide plate
Right side of fabric

Fold the fabric with wrong side together.

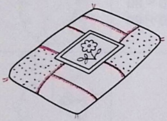
Raise the presser foot, and insert the fabric under the foot, then lower the foot. Sew along the edge without cutting it.


Wrong side of fabric
IRON
Right side of fabric

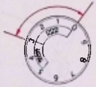
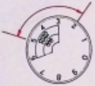
Open the seam, and iron the wrong side of fabric.

Patchwork

≪ Application ≫

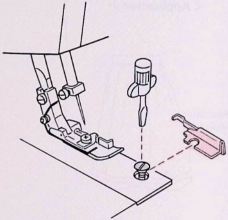


≪ Type of Thread and Range of the Tension Dial ≫

Fabric		Thread	Tension Dial
Medium thickness	**Needle thread**	Cotton No. 60 ~ 80 Silk No. 50 ~ 80 Synthetic No. 60 ~ 80	
	Looper thread	Buttonhole twist	
	Stitch length selector knob	3	

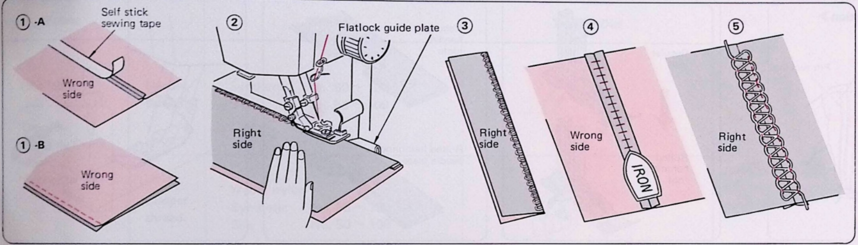
* Use the regular foot and regular needle plate.

≪ Preparation ≫



Attach the flatlock guide plate with the needle plate set screw.

≪ Sewing ≫


①-A
Self stick sewing tape
Wrong side
①-B
Wrong side
②
Flatlock guide plate
Right side
③
Right side
④
Wrong side
IRON
⑤
Right side

① -A Fold the both fabrics near the edge, and tape them together as illustrated.

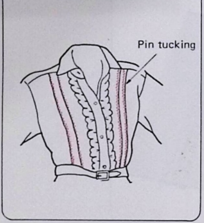
① -B Put both fabrics with right sides together.
Sew a straight seam along the edge as shown above ①-B. (Use straight/zigzag side of the machine.)

② Fold the fabric along the edge with wrong sides together.
Raise the presser foot, and insert the fabric, then lower the foot.
Sew along the edge without cutting the fabric.

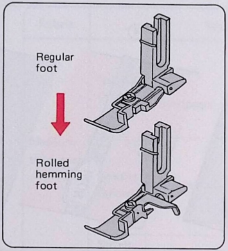
③ ④ ⑤ Open the seam, and iron the wrong side of fabric.

Pin Tucking

≪ Application ≫

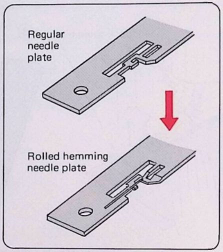

Pin tucking

≪ Changing the Foot ≫


Regular foot
Rolled hemming foot

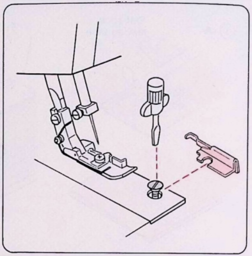
Change it to the rolled hemming foot.

≪ Changing the Needle Plate ≫


Regular needle plate
Rolled hemming needle plate

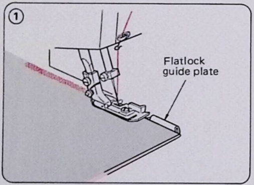
Change it to the rolled hemming needle plate.

≪ Setting the Flatlock Guide Plate ≫

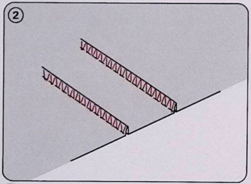


Attach the flatlock guide plate with the needle plate set screw.

≪ Sewing ≫

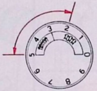
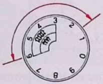
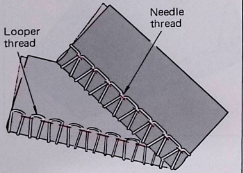
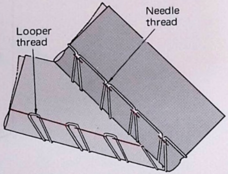

①
Flatlock guide plate

①Fold the fabric with wrong sides together on the foldline.
Sew guiding the folded edge along the flatlock guide plate.



② Press the pin tucks to one side.

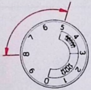
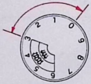
≪ Type of Thread and Range of the Tension Dial ≫

Fabric		Thread	Tension Dial
Thin fabric Organdy, Crepe de Chine, Lawn, Georgette	**Needle thread**	Synthetic No. 80 ~ 100 Silk No. 50 ~ 100	
	Looper thread	Wooly nylon Synthetic No. 80 ~ 100 Silk No. 50 ~ 100	
	Stitch length selector knob	1	3
	Correct tension	 Looper thread Needle thread	 Looper thread Needle thread

* Refer to Page 42 for adjusting the thread tension.

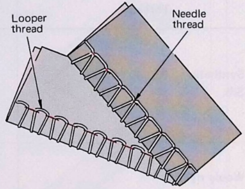
Seamlock

≪ Type of Thread and Range of the Tension Dial ≫

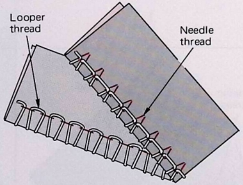
Fabric		Thread		Tension Dial
Stretch fabric	Needle thread	Synthetic thread	No. 40 ~ 80	
	Looper thread	Synthetic thread	No. 40 ~ 80	
	Stitch length selector knob	3		

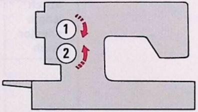
* Use the regular foot and regular needle plate.

≪ Correct Tension ≫


Looper thread
Needle thread

≪ The needle thread is too loose or the looper thread is too tight. ≫

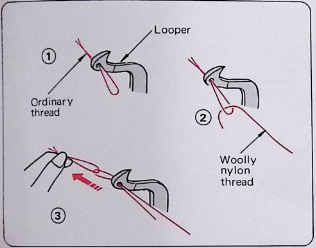

Looper thread
Needle thread



Turn the dial ① to clockwise or the dial ② to counter-clockwise.

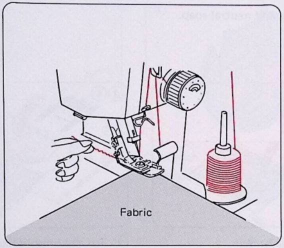
Sewing Technique for Better Result

≪ To Thread Woolly Nylon Thread ≫


Looper
①
Ordinary thread
②
Woolly nylon thread
③

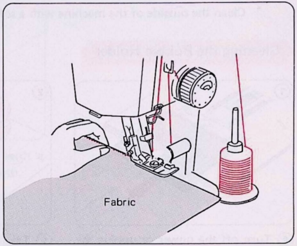
Threading is easier by doing the way shown as above.

≪ Rolled Hemming ≫



At the beginning of rolled hemming it is recommended to pull the end of threads to the back lightly.

≪ Picot Edging ≫

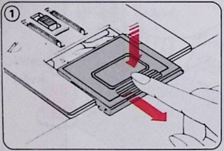


It is recommended to pull the fabric to the back lightly to help the machine to feed.

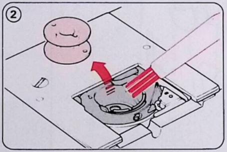
Care of Your Machine

- The bobbin area and hook race should be cleaned after completion of every garment.
- Do not store the machine in an area of high humidity, near a radiator or in direct sunlight.
- Clean the outside of the machine with a soft cloth and neutral soap.

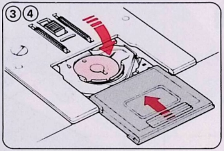
Cleaning the Bobbin Holder



① Turn off the power or unplug the machine. Remove the slide plate from the machine.



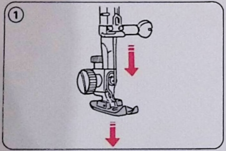
② Take out the bobbin.
Brush out dust and lint or you may use a vacuum cleaner.



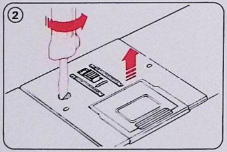
③ Put the bobbin back to the holder.

④ Insert the slide plate by pushing it into the grooves on both sides.

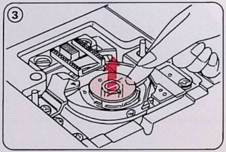
Taking Out the Bobbin and Bobbin Holder



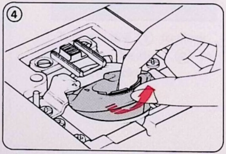
① Unplug the machine and remove the presser foot and needle.



② Remove the needle plate set screw, and take out the needle plate.

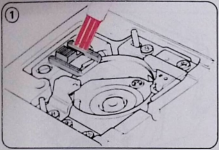


③ Take out the bobbin.

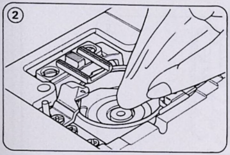


④ Lift up the bobbin holder and remove it.

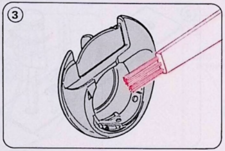
Cleaning the Hook Race and Feed Dog



① Turn off the power or unplug the machine, and clean the feed dog and hook race with a lint brush.

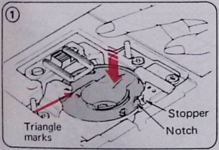


② Wipe the hook race with a soft dry cloth.

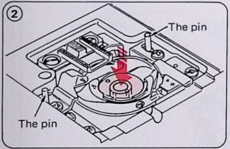


③ Clean the bobbin holder with a lint brush and a soft dry cloth.

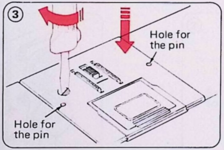
Resetting the Bobbin Holder and Needle Plate


①
Triangle marks
Stopper
Notch

① Line up the triangle marks and position the bobbin holder so that the notch fits next to the stopper in the hook race.

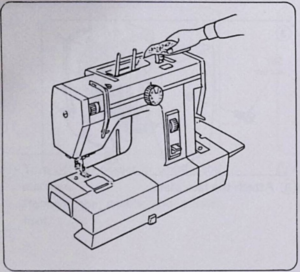

②
The pin
The pin

② Put the bobbin in.


③
Hole for the pin
Hole for the pin

③ Line up the two needle plate guide pins with the needle plate, and tighten the needle plate set screw.

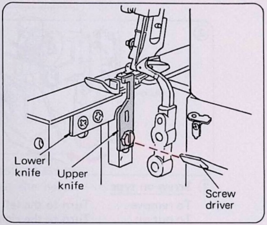
Cleaning Outside of Your Machine



Wipe off dust or oil gently with a soft cloth.

Do not use thinner, petrol, benzine or cleaning compound.

Replacing the Upper Knife

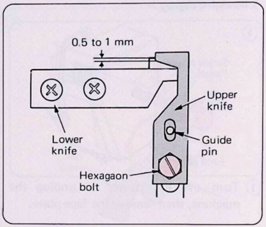

Lower knife
Upper knife
Screw driver

≪ To Remove ≫

① Disconnect the machine from the power supply.

② Open the chip guard.

③ Remove hexagon bolt and upper knife.


0.5 to 1 mm
Upper knife
Lower knife
Guide pin
Hexagaon bolt

≪ To Attach ≫

① Line up the holes on the knife with the guide pin and threaded hole.
Put the bolt on and tighten slightly.

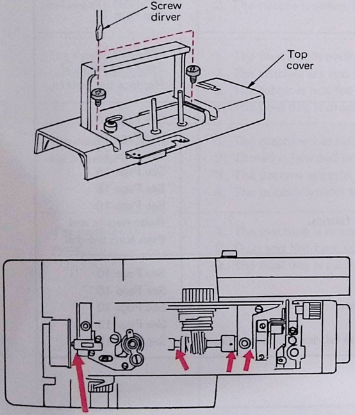
② Turn the balance wheel away from you until the upper knife comes to its lowest position. Position the upper knife so that the edge of the upper knife overlaps the edge of the lower knife between 0.5 mm and 1 mm (1/32") as shown, then tighten the bolt firmly.

③ Close the chip guard.

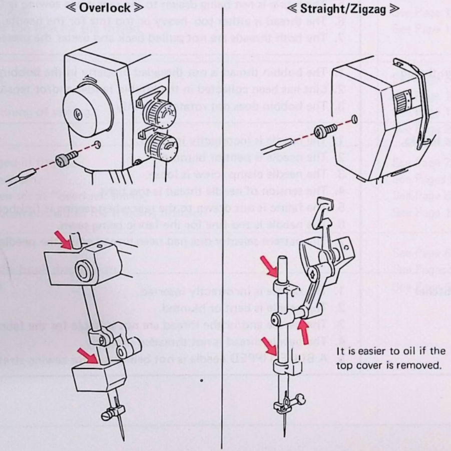
Oiling the Machine

Disconnect the machie from the power supply before oiling.

The oiling points are marked with arrows in the illustration below.
Apply a few drops of fine quality sewing machine oil in a certain period depending on how often you use the machine.
It is recommended to apply oil once a week in normal use.


Screw dirver
Top cover

It is easier to oil if the side cover is removed.


≪ Overlock ≫
≪ Straight/Zigzag ≫

It is easier to oil if the top cover is removed.

Trouble Shooting

Trouble Shooting for Straight/Zigzag Sewing

Condition	Cause	Reference
The needle thread breaks.	1. The needle thread is not threaded properly. 2. The needle thread tension is too tight. 3. The needle is bent or blunted. 4. The needle is incorrectly inserted. 5. The fabric is not being drawn to the rear when sewing is finished. 6. The thread is either too heavy or too fine for the needle. 7. The both threads are not pulled back and under the presser foot.	See Page 13 See Page 15 See Page 10 See Page 10 See Page 18 See Page 10 See Page 14
The bobbin thread breaks.	1. The bobbin thread is not threaded properly in the bobbin holder. 2. Lint has been collected in the bobbin holder and/or tension spring. 3. The bobbin does not rotate smoothly.	See Page 12 See Pages 56 & 57 Replace the bobbin.
The needle breaks.	1. The needle is incorrectly inserted. 2. The needle is bent or blunted. 3. The needle clamp screw is loose. 4. The tension of needle thread is too tight. 5. The fabric is not drawn to the rear when sewing is finished. 6. The needle is too fine for the fabric being sewn. 7. The pattern selector dial had been turned while the needle was in the fabrics.	See Page 10 See Page 10 See Page 10 See Page 15 See Page 18 See Page 10 Raise needle and then turn the dial.
Skipped stitches	1. The needle is incorrectly inserted. 2. The needle is bent or blunted. 3. The needle and/or the thread are not suitable for the fabric being sewn. 4. The needle thread is not threaded properly. 5. A BLUE TIPPED needle is not being used for sewing stretch, very fine fabrics and synthetics.	See Page 10 See Page 10 See Page 10 See Page 13 See Page 10

Condition	Cause	Reference
Seam puckering	1. The needle thread tension is too tight. 2. The needle thread and/or bobbin thread are not threaded properly. 3. The needle is too heavy for the fabric being sewn. 4. The stitches are too coarse for the fabric being sewn.	See Page 15 See Pages 12 & 13 See Page 10 See Page 16
Stitches loop behind the fabric.	1. The needle thread tension is to loose. 2. The needle is either too heavy or too fine for the thread.	See Page 15 See Page 10
The fabric is not being fed smoothly.	1. The feed dog is packed with lint. 2. The stitches are too fine. 3. The fabric is not fed at the beginning of sewing. 4. The feed dog is dropped.	See Page 57 See Page 16 See Page 18 See Page 9
The machine does not operate.	1. The machine has not been plugged in firmly. 2. Thread is jammed in hook mechanism. 3. The pattern selector dial has been set at "overlock sewing". 4. The bobbin winder spindle has been pushed to the winding position.	See Page 7 See Pages 56 & 57 See Page 8 See Page 11
The machine is noisy.	1. The machine is in need of oil. 2. Dust and lint have collected in the hook mechanism. 3. The feed dog is packed with lint.	See Page 61 See Pages 56 & 57 See Page 57

Trouble Shooting for Overlock Sewing

Condition	Cause	Reference
The cloth is not being fed smoothly.	1. The feed dog is packed with lint. 2. The presser foot has been raised.	See Page 58 See Page 35
The needle breaks.	1. The needle is incorrectly inserted. 2. The needle is bent or blunted. 3. The fabric is forcedly pulled. 4. The thread is jumming with spool pin.	See Page 35 See Page 35 See Page 45 See Page 36
The needle and/or looper thread break.	1. The machine is not correctly threaded. 2. The needle or the looper thread tension is too tight. 3. The needle is incorrectly inserted. 4. The needle is bent or blunted. 5. The thread is jamming with spool pin.	See Pages 37 ~ 40 See Page 42 See Page 35 See Page 35 See Page 36
Skipped Stitches	1. The needle is incorrectly inserted. 2. The needle is bent or blunted. 3. The machine is not correctly threaded.	See Page 35 See Page 35 See Pages 37 ~ 40
The seam is not sewn neatly.	1. The needle and/or looper thread tensions are not correctly adjusted. 2. The machine is not correctly threaded. 3. The needle and/or the thread are not suitable for the fabric being sewn.	See Page 42 See Pages 37 ~ 40 See Page 34
Seam Puckering	1. The needle and/or the looper thread tensions are not correctly adjusted. 2. The machine is not correctly threaded.	See Page 42 See Pages 37 ~ 40
The machine does not operate.	1. The machine has not been plugged in firmly. 2. The stitch selector dial has been set at "Straight/Zigzag Stitch". 3. The bobbin winder spindle has been pressed to the winding position.	See Page 7 See Page 33 See Page 11

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